

engineering, by encouraging discussion between the Faculty of Engineering and the secondary school community. The objectives of this approach are to change the attitudes of girls, their parents and their teachers towards engineering as an attractive profession for females. Role models are important, so it is pleasing to see the increasing number of female graduates in engineering. Several of the suggestions which have come from these interactions between the faculty and the school community are under active consideration and two in particular are already underway, namely, bridging courses in science and mathematics and a special version of the Junior University Programme (mentioned above). This scheme cannot be cited as the reason why the percentage of female engineering students has moved from 11 percent in 1988 to 14 percent in 1989, but the Dean of Engineering believes that there are now enough female role models to ensure that the numbers will grow rapidly from this point on. In an interview after being awarded the Ove Arup Scholarship, Lizi Sironic, who had just graduated with first class honours after being dux of each year from second year on, said that the only thing she had wished for was a close female friend in engineering. Minority groups, whether they be women in engineering or Koorie students, or mature age students, need a large enough group of similar people with whom to talk and share their feelings.

The Mature Age Special Admission Scheme

Having a significant group of 'minority' students will not in itself be enough to create an enclave, the institution must be aware of the presence, and then the needs, of the newly emerging group. The origins of the special admission scheme for mature age students provide an interesting case study of this very point.

Every even-numbered year the Higher Education Advisory and Research Unit collect detailed sociological data on all students entering Monash University for the first time, as first-year undergraduates. In the middle seventies a peak started to appear in those students in the age group of 25 years and over. This was an unusual phenomenon at that time and so we were keen to know who they were, why they had come and how well they performed. The results of these investigations^{3,4} are now well known. It became clear that this population of older people were in fact good students and were to be encouraged to enter tertiary study.

Special Entry Scheme

The Monash Special Entry scheme has been operating since 1974. In the early years two schemes were in existence; the Early Leavers and Educational Disadvantage schemes.

The aim of the mature age Special Entry

The selection process recognises that quality cannot be measured simply by reference to a selection score.

scheme was to attract students to courses at Monash who for special reasons identified as disadvantaged did not complete the normal year 12 or comparable qualifications and therefore did not satisfy university entrance requirements. The majority of students admitted to courses under the scheme have entered the Faculty of Arts aged in their late twenties, although many students were older than that.

The major distinguishing features of the scheme and method of operation were:

- A case of educational disadvantage had to be documented by each applicant and a decision made, in accordance with guidelines set by the University, on whether the circumstances constitute disadvantage.
- Applicants considered eligible on grounds of disadvantage were invited to sit for an Australian Scholastic Aptitude Test assessment run by the University. The results of the ASAT test were converted to an Anderson score on the basis of statistical research and data developed by the University's Higher Education Advisory and Research Unit.
- Applicants are then considered by faculties on the basis of disadvantage and ASAT performance. Selection procedures invariably include an interview.

The scheme was limited both by the requirement of disadvantage and the quota on the number of students admitted to courses. For many years entry under the scheme was limited to four percent of the intake in any faculty.

It is the prerogative of faculties to increase the quota on admissions if they wish and the Faculty of Arts recently increased the quota to 10 percent of the first year intake.

The success of the Scheme is well documented in terms of the success rate of mature age students admitted to courses over the years.

From 1989, selection into the Monash University Special Entry Scheme was broadened so that all persons with permanent residence, aged 23 years or more who had not satisfied university entrance requirements by completing a group 1 VCE year 12 or comparable programme, were eligible to apply for admission.

One of the outcomes of the many interviews conducted with the mature age students over the period since 1973, was the realisation that these students needed a place where they could meet other similar

students; because until they had become enculturated into the tertiary scene they were marginal people and felt uncomfortable not only in their new environment but also in the environment from which they were just emerging. The classic case of this is shown vividly in the film "Educating Rita". The Mature Age Students' Lounge situated in the Student Union building provided the 'half-way house' which was necessary support for the mature student.

The Schools Link Programme

One of Monash University's special initiatives to enhance access and equity was developed more than three years ago. Critical to the development of the concept of the Schools Link Programme was the study of results of first year students in courses at Monash University⁵. The study revealed that students from independent schools needed to

- specific study interests.
- Presentation of study skills, time and stress management seminars.
- Workshop and practical sessions in developing interview presentation skills for course selection (and job seeking).

Special admission arrangements to courses at Monash have been developed as a further incentive. Schools are invited to nominate students in year 12 for admission to courses on criteria such as likely success in tertiary study and non achievement of potential. Schools are invited to provide an outline of circumstances which may have hindered academic performance particularly in year 12. On the basis of the school reports and recommendations, nominated students who obtain an aggregate selection score within 15-20 marks of the cut-off required for a particular course can be awarded bonus marks to allow them admission to that course.

The progress of students admitted to courses under the Programme is monitored, particularly during the first year of tertiary study. Additional assistance is offered where appropriate and a special tutorship scheme has been established in one faculty. Assistance is offered to students experiencing difficulty in adjusting to tertiary life which for many involves living away from home. A meeting between students from schools in the Link Programme, academic staff, careers advisors and student counsellors is held early in the first semester of study.

Probably the most significant indicators of the effectiveness of the Programme so far are: the number of students from schools in the Programme who have sought and gained

entry to courses; the influence of the Programme on the aspirations of year 10 and 11 students.

More than 80 students have been admitted to courses at Monash from schools in the Link Programme. Over half of them gained admission without the need for bonus marks. In the evaluation process, study aspirations of students over the past three years have been surveyed. There is clear evidence of changed student aspirations in several schools, reflected in increased retention to year 12 and increased tertiary participation.

The success of the Programme will be ultimately measured in terms of completion rates of students admitted under special arrangements and of all students admitted to courses from the schools included.

All students admitted to courses with bonus marks in the past two years, have proceeded to the next year of study. The first group of graduates will emerge from three year degree courses this year.

The underlying objective of Monash in developing the Programme is to increase access to tertiary study by students who have not traditionally aspired to that level of education and its rewards. It is an attempt to attract more better quality students to courses who are motivated and will benefit from the experience.

The selection process recognises that quality cannot be measured simply by reference to a selection score.

A major expansion of the Programme will be developed in the next three years with an emphasis on developing links with more country schools. The Programme will focus on encouraging greater participation in mathematics and science studies to year 12,

and subsequent tertiary participation in science and engineering based courses.

Employers of graduates will be included in the career education activities to be developed in consultation with schools. The programme is funded by a major grant under the Higher Education Equity Programme and includes further development of tertiary support services for Link and other students.

The Monash University mission statement⁷ asserts that Monash will continue to improve access for disadvantaged groups, and the new status of Monash as a Distance Education Centre widens the means whereby this objective might be achieved.

References

1. Commonwealth Tertiary Education Commission. *Review of Efficiency and Effectiveness in Higher Education*. Canberra: AGPS, 1986, Para. 3.31.
2. Dawkins, The Hon. J.S. *Higher Education: A Policy Statement*. Canberra: AGPS, 1988, p.21.
3. Hore, T. & West, L.H.T. (Eds) *Mature Age Students in Australian Higher Education*. Melbourne: Monash University, 1980.
4. Hore, T. & West, L.H.T. *Back to School*. Melbourne: Methuen, 1982.
5. West, L.H.T. "Differential prediction of first year performance for students from different social backgrounds". *Australian Journal of Education*, 1985, 29, pp.175-187.
6. Dunn, T.R. "An empirical demonstration of bias in HSC examination". *Australian Journal of Education*, 1982, 26, 190-203.
7. Monash University. *Strategy for the Future*. March, 1988.

Access to tertiary studies: The case of mature age students

Jan Currie and Cora Baldock

Murdoch University

Introduction

The Federal Government through programs such as the Participation and Equity Program (PEP) has had as its overall objective higher retention rates in secondary school and greater access to tertiary studies for disadvantaged groups. The groups identified as disadvantaged are those from less favoured schools and home backgrounds; Aborigines and women are also specifically mentioned. Even though PEP at the secondary level has been discontinued, the Labor Government, through its White Paper on Higher Education (1988), has reiterated its concern to achieve greater equity for disad-

vantaged groups within the higher education system. Increasing the participation of school leavers in tertiary studies is seen by the Federal Government as an important mechanism for the reduction of education inequalities.

This paper will focus on the Federal Government's policy announced in 1984 of increasing the participation of school leavers in tertiary studies and the possible effect this may have on access to tertiary studies for mature age students. This policy has not been altered with the release of the White Paper by Dawkins in December 1988. The authors question the Hawke Labor Govern-

ment's assumption that increased participation by school leavers in tertiary studies will necessarily bring about greater equity, particularly if this means that the proportion of mature age students will be reduced.

In 1984 the Commonwealth Tertiary Education Commission (CTEC) documented the decline in the participation rates of young people between the ages of 17 to 19 over the period from 1974 to 1984 (see Table 1). The Commission wrote: "A decline of one fifth in the participation of young people in higher education is surely a matter for community concern" (CTEC, 1984:8). The Commission, although con-

(We) question the Hawke Labor Government's assumption that increased participation by school leavers in tertiary studies will necessarily bring about greater equity, particularly if this means that the proportion of mature age students will be reduced.

Table 1
Participation rates¹ in Australian higher education for selected years from 1974 to 1984

	1974	1976	1978	1980	1981	1982	1983	1984
1974	18.0							
1976	17.1							
1978	15.9							
1980	14.5							
1981	14.3							
1982	14.1							
1983	14.7							
1984	16.2							

1. Participation rate defined as the commencing enrolment direct from school to higher education as a percentage of the 17 year-old population from the previous year.

Source: Commonwealth Tertiary Education Commission (reported in McGaw and Hannan, 1985, p59).

cerned about increasing school leaver participation did not recommend a reduction in mature age students. Furthermore, the Commission recognised that the provision for mature age students is "a major means of promoting equity in access to education" (1984:8). However, the Government in responding to the Commission's Report for the 1985-87 Triennium did not encourage this growth in mature age students even though it acknowledged that it gave opportunities to disadvantaged groups to enter tertiary institutions. Senator Ryan remarked: "The government considers that the emphasis in the coming triennium must be on creating more opportunities for young people" and she requested CTEC "to give highest priority to proposals to increase participation of young people (Ryan, 1984:3).

The mature age student phenomenon

An examination of the historical record demonstrates the tendency to use mature age students as a "surplus student pool" to supply students in times of high labour demand or when institutions find themselves with an oversupply of places. For example, faced with the need to rehabilitate ex-service men and women by giving them the opportunity to acquire civil occupations, the Federal Government initiated the Commonwealth Reconstruction Training Scheme in 1944, the only form of financial assistance which has been aimed specifically toward mature

age of +23.0). The growth in the numbers of mature age students slowed down in the period 1980-1983 as the proportions of younger students increased but there was still greater increases from the older students (+13.0%) than for the younger ones (+2.8%). Table 2 also indicates that by 1983 the proportion of under 23 year olds (50.5%) was slightly larger than the proportion of over 23 year olds (49.0%) studying at tertiary institutions.

However, the increase in mature age students was halted in 1985 following the policy of the Federal Government to increase the proportion of school leavers. As can be seen in Table 3, from 1984 to 1988 the percentage of those under the age of 19 in the tertiary system increased from 28 per cent to 32 per cent and correspondingly the percentage of those over 20 decreased from 72 per cent to 68 per cent. These figures underestimate the number of school leavers because they include all students studying in university. Thus the age group over 20 years old could include school leavers who began studying at age 18 and are now in the third year of university at age 20 or 21. Figure 1 which combines the 19 & Under groups with the 20 to 24 group and compares them with the over 25 group demonstrates that after 1986 there has been a decline in the proportion of mature age students and a consequent increase in the younger population of students.

A number of reasons have been given for the increase in mature age students during the last decade. These include demographic changes; a concerted effort by individual institutions to attract mature age students in the face of declining enrolments (and possible cuts in funding) (Linke, 1981); and the strong desire by adults for tertiary education despite the significant hurdles they face (West, 1981). It is likely that all these are factors contributing to the current trend. However, it can also be surmised that a large percentage of mature age students are those

Table 2
Students in universities and advanced education courses 1980 and 1983

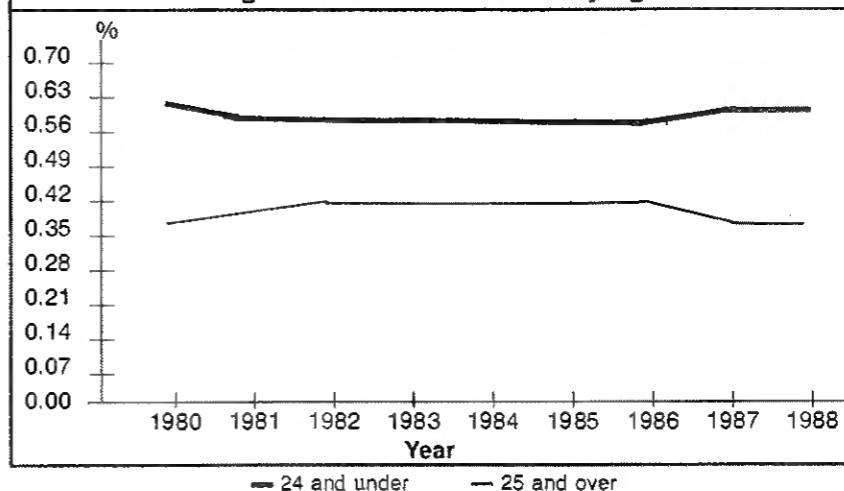
Type	1977	1980	1983*	1977-1980		1980-1983	
				Increase/ Decrease	Percent	Increase/ Decrease	Percent
By mix —							
Full-time	187,900	177,900	188,564	- 10,000	- 5.3	+ 10,664	+ 6.0
Part-time	92,400	114,300	118,963	+ 21,900	+ 23.7	+ 4,663	+ 4.1
External	20,600	35,400	41,127	+ 14,800	+ 71.8	+ 5,727	+ 16.2
By sex —							
Male — <23	93,200	89,400	90,811	- 3,800	- 4.0	+ 1,411	+ 1.6
23+	76,600	86,900	95,735	+ 10,300	+ 13.4	+ 8,835	+ 10.2
Female — <23	79,300	79,500	82,873	+ 200	+ 0.2	+ 3,373	+ 4.2
23+	48,100	66,600	77,714	+ 18,500	+ 38.4	+ 11,114	+ 16.7
By age —							
<23	172,500	168,900	173,684	- 3,600	- 2.0	+ 4,784	+ 2.8
23+	124,700	153,500	173,449	+ 28,800	+ 23.0	+ 19,949	+ 13.0

*Source: CTEC selected university statistics and selected advanced education statistics.

Table 3
Higher education students by age and gender 1980 to 1988 (percentages)

Year	19 and under			20 to 24			25 to 29			30 and over		
	M	F	T	M	F	T	M	F	T	M	F	T
1980	27	33	30	33	28	31	17	13	15	23	26	24
1981	26	31	30	33	28	31	17	13	15	24	27	26
1982	25	31	28	32	28	30	17	13	15	25	28	27
1983	25	30	28	33	28	30	16	13	15	25	28	27
1984	25	30	28	32	28	30	16	12	15	26	29	27
1985	26	31	28	32	27	30	16	12	14	27	29	28
1986	28	31	29	31	27	29	15	12	14	27	29	28
1987	28	33	31	31	27	29	15	12	13	25	28	27
1988	30	34	32	30	26	28	14	11	13	25	28	27

Figure 1
Higher education students by age



who "missed out" on tertiary education during the 1950s and 1960s due to economic and social factors. Since the greatest percentage increase in mature age students has occurred in the 30+ age group (Linke, 1981) and among women, this explanation is a likely one.

To treat prospective mature students, in these historical circumstances, as an expendable pool of surplus talent which can be ignored in order to enhance the educational opportunities of school leavers is to ignore the interconnections between the two pools of potential students.

Australian tertiary education: Elite or mass education?

There has been a tremendous expansion in higher education enrolments since World War II in most industrialised countries. In 1950 there were few countries in which more than 5 per cent of youth attended universities or other institutions of higher education, while in almost all industrialised countries more than 20 per cent attend institutions of higher education in the 1980s (Hermanns, 1983:3). According to Martin Trow's definition that mass higher education begins when 15 per cent of the age group is

enrolled (as reported in Neave, 1985), most industrialised countries could be said to have mass higher education systems. Both Australia and Britain are on the verge of mass systems with between 15 and 20 per cent of the age cohort enrolled in higher education.

Small size does not necessarily indicate that the system is a preserve for a social elite. However, if the selection criteria are narrowly based, the result is often one which favours the children of the middle and upper classes at the expense of the working class. Teichler in summarising the results of different investigations noted that "the more selective the access to a sector of the university system, the lower the percentage of students from lower social strata" (1983:301). This simple assertion has been demonstrated in the Australian system where the more prestigious faculties, such as medicine and law, have fewer students from the lower social strata than faculties such as education (Anderson and Vervoorn, 1983). Also there is a fairly clear division among the types of tertiary institutions, with the universities the most prestigious with few working class students; the colleges of advanced education next in order of prestige

with a slightly higher percentage of working class students; and the TAFE sector serving mainly the lower middle and working classes (Ely, 1978: 117).

In Britain, Neave (1985) noted that the proportion of the age cohort qualified to enter higher education had stagnated between 1973 and 1985. Comparable figures for Australia demonstrate that, like Britain, the 1970s and early 1980s were a period of stagnation when the participation rates of the age cohort of 17 year olds actually declined from a high of 18 per cent in 1974 to 14 per cent in 1982, to begin a slow recovery again to reach 16 per cent in 1984. Fulton in 1988 argued that despite the fact that Britain's system had reached the magic figure of 15 per cent it had still retained most of the features of an elite system. He saw as the major obstacle the definition of entry 'standards' and admission procedures which if they persisted would result in intractable social inequality and a participation rate well below that of most other European countries.

As a result of Dawkins' White Paper and the proposed Unified Tertiary System with the possibilities of credit transfers and more flexible entry criteria, the Australian system may move towards a mass education system as defined by Martin Trow. However, despite its expansion into a mass system, its social composition may not be altered because of two countervailing forces: Dawkins' introduction of the Higher Education Contribution Scheme (HECS) which is likely to discourage working class participation and the resistant attitude of many tertiary institutions to make a dramatic change to their admission criteria.

In the past decade in Australia as in Britain there have been few attempts to create alternative admissions criteria even though there have been indications that 'special entry' students perform as well in the traditional university as other students (Barrett, 1977; Barrett and Powell, 1980; Van Holden, 1975; Walker, 1975; Bowlay, 1977). Smith has noted that "the rate of admission of such 'non-standard' people into even the most liberal traditional universities has to date very rarely been more than about 200 students a year" (1979: 46). In addition, there has been consistent evidence that not only is the Australian system selective in terms of its admission criteria, it is also a preserve of the socially elite. Anderson and Vervoorn (1983) concluded, after a comprehensive review of research, that there has been little change in the overall social composition of higher education students in Australia. They state that:

... higher education in general and universities in particular remain socially elite institutions. The over-representation of students from high socio-economic backgrounds has remained constant, at least since 1950, as has the under-

representation of those from lower socio-economic backgrounds" (1983: 120).

Williams (1987) supported this conclusion in a report on findings from two Australia-wide samples of youth born in 1961 and 1965 which were traced in longitudinal surveys from 1975 onwards. The report described the participation of Australian youth in post-compulsory education during the late 1970s and early 1980s.

Participation in higher education is strongly linked to both the social and economic aspects of socioeconomic status. For the age group as a whole, persons with fathers in professional occupations participate in higher education at more than three times the rate of those from families characterised by unskilled work. Similarly, those from wealthy families participate at twice (or more) the rate of those from poorer families. (Williams, 1987: 59).

There have been moves to democratize higher education by promoting participation of bright working class children mainly by the Labor Governments of Curtin, Chifley and Whitlam (Anderson and Eaton, 1982). The latest change initiated by the Whitlam Government was to abolish tuition fees and provide assistance to students from lower income families in the form of tertiary allowances (TEAS, now known as AUSTUDY).

In a paper presented in December 1985 Anderson noted that financial incentives, such as the various State secondary education studentship schemes of the 1950s and 1960s had made an impact on Australian higher education creating a more equal system (based on class, sex and city/rural balance) and that without the abolition of fees and introduction of TEAS the imbalance in the system would have worsened as a result of the decline in studentships. He also made the point that part time study and provisions for adult entry are probably the greatest contributors to a more equal system.

In regard to the social origins of mature age students, three studies (Isaacs, 1979; West and Boon, 1980; Anderson et al., 1978) found that older students were on average closer than younger students to the population at large. Barrett (1980) in a study of mature age unmatriculated students admitted to the University of New South Wales from 1977 to 1980 found that these students were even more representative of the general population than mature age students admitted under the normal selection criteria.

Mature age students are more likely to be part time students than full time students because of their family and work responsibilities. Anderson and Vervoorn in reviewing findings from a number of universities concluded that "the social composition of part time students is a little closer to that of the general population than that of full time students, with some of the less advantaged

social groups gaining better representation" (1983: 152).

This suggests, as mentioned earlier, that present selection procedures may need to be altered to allow a greater cross section of the population to gain access to a tertiary education. The Commonwealth Department of Education produced a discussion paper on *Selection for Higher Education* in 1986 which reviews the various selection methods and criteria presently used in Australia and the criticism expressed from many quarters of some of these methods. They quote Marginson who argues that "the selection system is inherently unfair, socially biased, based on unscientific principles although represented as objective, anti-educational and destructive of human potential by producing large-scale failure" (1986:4). He went on to assert that the present system favours students from the private school system.

Findings from our research

Our study specifically addresses the social composition of tertiary students beyond single institution studies. Therefore, more definitive statements can be made about the social background of mature age students. We reanalysed data from the National Survey of Tertiary Students commissioned by the Williams Inquiry into Education and Training (1977) and Currie's Western Australian Career Development Project (1977). In this reanalysis mature age students were categorised simply as those over the age of 22. The National survey received 8,188 completed questionnaires from 46 institutions representing a response rate of 80 percent for students in the universities and colleges of advanced education and 56 percent for technical colleges. The WA survey had 1,806 completed questionnaires representing a response rate of 61 percent overall from five institutions (two universities, two CAEs

and Technical Colleges). Tables 4 and 4a show the distribution of the samples by age and sex indicating that the WA sample had slightly more mature age students compared with younger students; however, the proportion of males and females was approximately the same in both samples.

Parental education

Our study uses fathers' and mothers' education, fathers' occupation and parental income as measures for socioeconomic background. Beginning with parental education, Table 5 shows fathers' and mothers' mean education levels for both samples by the type of institutions the students attended.

Our analysis shows that in the university sector it is the younger students in general, and the younger female students in particular, who have the highest level of parental education. In the National sample it is the mature age male students in the CAE sector who have the lowest level of parental education, whereas in the WA sample the male school leavers and mature age students have parents with similar levels of education. In both samples, it is the female students who show the greatest difference in parental education according to age, with the younger females having the highest means and the older females the lowest. In both samples there is a striking difference between fathers' and mothers' education among TAFE students. Whereas there are no significant differences in the means according to age with respect to fathers' education (with the female students having higher means than the male students) the younger students have significantly higher means for mothers' education. Overall, in all sectors it is the younger female students who consistently have the highest means for parental education. In the National sample the range of means is larger in the university sector (i.e. there is a greater diversity between

Table 5
Parental education showing means and significance levels* among Australian and WA tertiary students by type of institution

Parental education by type of institution	Mean rating by students of background characteristics (1 = completed university to 9 = some primary)					Significance levels	
	Total \bar{x}	Non-Mat. F	Non-Mat. M	Mature F	Mature M	Age	Sex
Fathers' education							
University students	4.83	4.25	4.69	5.20	5.57	.001	.001
CAE students	5.55	5.27	5.51	5.54	5.93	.001	.001
TAFE students	6.21	6.00	6.13	6.24	6.29	NS	.001
All students	5.43	4.97	5.39	5.58	5.88	.001	.001
WA sample							
University students	5.86	5.51	5.60	6.02	6.40	.001	.001
CAE students	6.17	6.00	6.22	6.26	6.30	NS	.001
TAFE students	6.73	6.22	6.56	6.67	6.82	NS	.001
All students	6.17	5.79	6.01	6.20	6.53	.001	.001
Mothers' education							
University students	5.66	5.16	5.49	6.05	6.34	.001	.001
CAE students	6.20	5.88	6.13	6.16	6.72	.001	.001
TAFE students	6.62	6.52	6.56	6.66	6.75	.05	.001
All students	6.09	5.69	5.99	6.26	6.59	.001	.001
WA sample							
University students	5.32	4.93	5.15	5.61	5.66	.001	.05
CAE students	5.63	5.32	5.62	5.77	5.97	NS	.05
TAFE students	5.97	5.43	5.70	5.94	6.12	.05	.05
All students	5.58	5.16	5.47	5.82	5.82	.001	.05

*The F ratio (in a one way analysis of variance) is used to test whether the means of subsamples (mature age versus non-mature age and males versus females) are significantly different from each other. The levels considered significant are anything below .05 level (1 time in 20) and those not significant are listed as 'NS' in the table.

Table 4
National sample of tertiary students' age by sex

Tertiary Students' Age	Sex		Total	
	Male	Female	%	N
Non-Mature Age	60.9	39.1	100.0	(5043)
Mature Age	58.4	41.6	100.0	(3145)
Total % (N)	60.0 (4909)	40.0 (3279)	100.0	(8188)

$\chi^2 = 5.171$ with 1df p<.05

Table 4a
Sample of WA tertiary students' age by sex

Tertiary Students' Age	Sex		Total	
	Male	Female	%	N
Non-Mature Age	53.1	46.9	100.0	(884)
Mature Age	66.4	33.6	100.0	(922)
Total % (N)	59.9 (1081)	40.1 (725)	100.0	(1806)

$\chi^2 = 32.787$ with 1df p<.001

groups) than in other sectors, but this is less true of the WA sample with respect to fathers' education and not at all true with respect to mothers' education.

Before asserting categorically that the older students come from more disadvantaged backgrounds in terms of their parents' education, it is worth considering the argument that the percentage differences noted in this study between the younger and older students are a result of changes in the overall educational participation rates in society. We analysed Australian Bureau of Statistics data on the educational attainment of Australian males aged 35 to 64 years and found that over a ten year period there was a two percentage difference in both tertiary and upper secondary school qualifications and a five percentage difference for primary

and lower secondary school qualifications. When disaggregating our WA sample by age using fathers' educational level, we found that for each age group there was a difference in tertiary level participation which was greater than two per cent for a ten year period. The largest percentage differences noted were for those between the 17-22 age group and the 30-39 age group with a ten percentage difference at the primary level. This is a much greater percentage difference than one would expect based on the general level of increase in educational participation. In other words, the percentage differences cannot be explained in terms of the general societal increases in educational participation. It can be said, therefore, that using fathers' educational level as a criterion the disadvantage noted is a genuine one.

Fathers' occupation

In turning to fathers' occupation (Table 6), it can be seen that in both the National and WA samples it is the younger students in general and the younger female students in particular who have fathers employed in higher status occupations in the University sector. In the CAE sector, the female students are more likely to have fathers employed in high status occupations than the males in both samples. However, there is little difference between the older and younger students in the status of their fathers' occupation. Combining all the students, the younger students (both males and females) in the WA sample and the younger and older females in the National sample had fathers in higher status occupations. Overall it was the

Table 6
Father's occupation showing means and significance levels* among Australian and WA tertiary students by type of institution

Father's occupation by type of institution	Mean rating by students of background characteristics (1 = upper professional to 5 = unskilled)	Significance levels		Age	Sex
		Mature F	Mature M		
National sample of tertiary students					
Fathers' occupation	Total x	Non-Mat. F	Non-Mat. M	Mature F	Mature M
University students	2.83	2.68	2.80	2.95	3.02 .001 .05
CAE students	3.25	Mature F	Non-Mat. F	Non-mat. M	Mature M 3.36 NS .001
TAFE students	3.63	Mature F	Non-Mat. F	Mature M	Non-Mat. M 3.75 .001 .001
All students	3.18	Non-Mat. F	Mature F	Non-Mat. M	Mature M 3.21 3.29 .001 .001
WA sample of tertiary students					
Mean rating by students of background characteristics (1 = high and 5 = low)					
Fathers' Occupation		Non-Mat. F	Non-Mat. M	Mature F	Mature M
University students	3.09	2.87	2.95	3.30	3.31 .001 .001
CAE students	3.40	Non-Mat. F	Mature F	Mature M	Non-Mat. M 3.46 .01 .001
TAFE students	3.74	Mature M	Non-Mat. M	Mature F	Non-Mat. F 3.82 .01 NS .01
All students	3.34	Non-Mat. F	Non-Mat. M	Mature F	Mature M 3.37 3.51 .001 .001

*The F ratio (in a one way analysis of variance) is used to test whether the means of subsamples (mature age versus non-mature age and males versus females) are significantly different from each other. The levels considered significant are anything below .05 level (1 time in 20) and those not significant are listed as 'NS' in the table.

Table 7
WA sample of tertiary students' ages by parental income (percentages)

Tertiary Students' Age	Parental Income			Total	
	Above average	Average	Below average	%	(N)
17-22	57.0	25.2	17.8	100.0	(742)
23-29	47.8	28.5	23.7	100.0	(379)
30-39	27.6	25.4	46.9	100.0	(228)
40+	18.1	13.9	68.1	100.0	(72)
Total %	47.9	25.5	26.6	100.0	
(N)	(680)	(363)	(378)		(1421)

Fot total table: $\chi^2 = 155.746$ with 6df $p < .001$
For age groups 17-22 and 23-29: $\chi^2 = 9.514$ with 2df $p < .01$

N = 1421

NA = 401

TOTAL = 1822

younger females in universities who came from the most privileged backgrounds with regard to their fathers' occupation.

Parental income

Finally we examine parental income to establish that mature age students come from more disadvantaged backgrounds. Table 7 disaggregates the tertiary students' age groups from the WA sample into four groups at their estimates of their parents' income. Eliminating the age group, 40+, since many of their parents are likely to fall into the category of retired, a comparison of the other three groups indicates that the younger group (57%) comes disproportionately from parents who have

above average incomes compared with the 23-29 age groups (48%) and the 30-39 age group (28%). It could be argued that even a proportion of students in the 30-39 age group could have parents who were pensioners and it may not be fair to compare this group with the younger students. Yet it can be seen that there is still a significant difference between the two age groups, 17-22 year olds and the 23-29 year olds, in their parental income. Nine percent more of the younger students have parents with above average incomes compared with the older students in the age category 23-29. It can be said, thus, with a fair degree of confidence that the results accurately evidence that the younger students came from more privileged

backgrounds than the mature age students.

In looking at parental income and analysing the means and significance levels by type of institution (Table 8), it can be seen that, in both samples the younger students have a higher mean parental income than the older students in both the University and CAE sectors but there are no significant differences between males and females in their parental income. The National TAFE sample shows no significant differences according to age or sex, and the WA TAFE sample shows that the younger students have higher parental income levels than the older students but no significant differences are seen by sex. When combining all the students, both samples show that younger students and younger female students, in particular, have higher parental incomes than other students. The older female students have the lowest level of parental income in both samples.

Discussion

The findings in both the National and WA samples show a clear trend that the younger students, and particularly the younger female students, come from more privileged backgrounds, and that those who are most privileged are found in the university sector. These are by no means surprising findings since they confirm studies done in Australia and other industrialised countries that indicate that female students tend to come from higher socioeconomic backgrounds than male students. A possible explanation

Table 8
Parental income showing means and significance levels* among National and WA sample of tertiary students by type of institution

Parental income by type of institution	Mean rating by students of background characteristics (1 = well above av. 3 = average (\$200 p/w in 1977) 5 = well below av.)	Significance levels			
		Age	Sex	Age	Sex
National sample of tertiary students					
Parental income	Total x	Non-Mat. M	Non-Mat. F	Mature M	Mature F
University students	2.80	2.63	2.67	3.12	3.17 .001 NS
CAE students	3.18	Non-Mat. M	Non-Mat. F	Mature M	Mature F 3.36 .001 NS
TAFE students	3.46	Non-Mat. F	Mature M	Non-Mat. M	Mature F 3.52 NS NS
All students	3.08	2.97	2.98	3.29	Mature F 3.29 .001 NS
WA sample of tertiary students					
Mean rating by students of background characteristics (1 = high and 5 = low)					
Parental income		Non-Mat. M	Non-Mat. F	Mature M	Mature F
University students	2.60	2.40	2.47	2.70	3.10 .001 NS
CAE students	2.71	2.49	2.53	2.93	3.00 .001 NS
TAFE students	3.06	2.38	2.81	3.15	3.19 .01 NS
All students	2.74	2.48	2.52	2.99	3.04 .001 NS

*The F ratio (in a one way analysis of variance) is used to test whether the means of subsamples (mature age versus non-mature age and males versus females) are significantly different from each other. The levels considered significant are anything below .05 level (1 time in 20) and those not significant are listed as 'NS' in the table.

for this result is a lingering attitude that higher education is not as necessary for girls as for boys. Thus it is usually the more privileged parents, for whom the cost of tertiary education is a relatively small financial burden, who send their daughters to tertiary institutions.

The differences between the younger and older students were most marked for students in the university sector compared with those in the CAE and TAFE sectors. In the university sector, the older male students came from the most disadvantaged backgrounds. In other words, an increase of school leavers at the expense of mature age students is likely to be conducive to a decrease in inequality. In fact, a general increase in participation, without an attempt to target specific disadvantaged groups (many of whom will be mature age) may well have the effect — as it has in other countries — of improving the chances of the middle and upper class to gain access to new places made available.

The disadvantaged status of mature age students shows up clearly when their parents' socioeconomic background is considered. What the present authors were not able to assess, but which should be included in further study, is the current socioeconomic status of mature age students. There is evidence that certain groups of mature age students are particularly disadvantaged vis à vis school leavers in terms of previous tertiary qualifications. Those who have previous qualifications often gained these at TAFE or at CAEs, and take advantage of an opportunity (very much advocated

by the federal government) of credit transfer between tertiary institutions. Furthermore, the majority of mature age students with previous tertiary qualifications gained these more than ten years prior to seeking re-entry into tertiary studies. According to present regulations in many tertiary institutions, these students would be given little or no credit toward their present studies because it was deemed that the period of time between their studies was too long. Employers may take a similar attitude to individuals attempting to re-enter the job market with what may be termed 'out-dated' qualifications.

As mentioned earlier, the change in orientation in tertiary institutions from part time to full time students during the 1950s and 1960s was based partly on the view that part time students were largely unsuccessful in their studies. However, our research so far has shown that mature age students achieve better results on average than school leavers during their tertiary studies. Our results indicate that mature age students report that they do better in tertiary studies. When comparing the younger and older students and their academic performance in the National sample, more mature age (26.5%) than younger students (19.3%) reported that they were in the top 20 per cent of their class. This supports the findings of earlier studies reviewed by Eaton (1980) and West (1981) and another study by Barrett (1980) which found that unmatriculated mature age students admitted under alternative entry schemes generally achieved higher pass

rates and higher grades than school leavers. In fact, there is little evidence to support the assumption that students benefit more educationally by continuing on to tertiary studies directly from school.

In summary, then, we maintain that policies set out to encourage increased enrolment of school leavers in tertiary studies divert attention from the fact that:

- Younger students come on average from higher socioeconomic backgrounds than mature age students, a pattern likely to be even more pronounced when current socioeconomic position rather than parental background is considered in the case of mature age students.
- Many mature age students attempting enrolment into tertiary studies now are likely to be people in their twenties who decided not to pursue higher education in the period 1976-1981 during the years of declining enrolments and thus stepped out of the educational system for more than a "short period of work experience".
- Most mature age students have, contrary to accepted myths, no previous tertiary qualifications, while those who do (a small number) come generally from the TAFE and CAE sectors thereby applying (unwittingly perhaps) a policy of transfer between tertiary education systems the federal government is advocating.
- There is little evidence to support the assumption that school leavers perform better at tertiary studies, in fact, most evidence points in the opposite direction.
- Policies set out to encourage school leavers at the expense of older students are likely to lead to discrimination based on class, gender and age.

Policy implications

In the past several years there have been calls for changes in admission requirements in many tertiary institutions. The NSW Teachers Federation has proposed a "collegiate" university which would operate an open university format, providing open access and entry to mature age students and an Aboriginal entry program (*Sydney Morning Herald*, 15 January 1986:13). The University of New South Wales has approved in principle a scheme which will make it easier for bright students from poor or "disadvantaged" families to gain enrolment. Garcia reported that:

...the scheme, to be known as ACCESS, will see a total of about 300 undergraduate places set aside by the university for students who are deemed to have high academic potential but who have suffered some form of educational disadvantage (*Sydney Morning Herald*, 17 December 1985:3).

Although researchers have been concerned about inequalities within the tertiary sec-

Thus it is usually the more privileged parents, for whom the cost of tertiary education is a relatively small financial burden, who send their daughters to tertiary institutions.

tor, there has been little debate about strategies that could be employed within the higher education system in Australia as a whole to increase the proportion of disadvantaged groups gaining access to tertiary places. The Federal Government has realised that special funding will be necessary and has begun to give special grants to institutions to try to achieve greater equality in access. There is no doubt that the Federal Government is committed to a goal of equalising educational opportunities yet it has not made the difficult decisions to allow this goal to be attained.

It would be a false interpretation of the data to suggest that, since the female students on the whole, tended to come from more privileged backgrounds, their numbers should be reduced and the older male student numbers increased. Female students were still a minority in all sectors of tertiary education at the time of our study and in the two samples represented 40 percent of each population. They were of course even less represented in the TAFE sector where they were less than 20 percent of both the National and WA samples. Given changing social attitudes concerning the role of women in society, and the importance of educational qualifications for girls, there is a possibility that when females reach parity with males, they will not differ substantially from the males in their socioeconomic background. This does not mean that by merely increasing numbers either the female or male students will be more representative of the population at large.

A stance that many administrators involved in the selection of tertiary students might take would be to assert that school leavers are more capable of benefiting from a tertiary education and have the 'correct' qualifications to gain entry. This position overlooks the fact that many able men and women were not in the generation when educational participation was increased dramatically. This would apply particularly to women who until the 1970s represented only a tiny minority of tertiary students. West and Eaton (1980) calculated, assuming the constancy of intelligence quotients over time, that there are many who have not completed secondary school but who are the intellectual equals of those who are presently doing so. This would apply equally to males and females but since fewer females have proceeded to tertiary studies in the decades

before 1975, there is likely to be a somewhat larger pool of intellectually capable women who could still benefit from special mature age entry requirements for higher education. Although the Government is aware of this untapped pool of female talent, their general strategy of reducing mature age intake will undoubtedly affect this group who tend to need more encouragement than males to undertake tertiary education and in comparison with younger females come from more disadvantaged backgrounds.

Recurrent education, of course, would mean a greater involvement of mature age students in higher education as well as in other forms of education. North American and European tertiary institutions have tended to move toward an opening up of access to older students rather than a restriction. Certainly the Federal Government could study the attempts by countries such as Sweden to allow any individual over the age of 24 entrance into a tertiary institution in those faculties where there are no quotas. In Sweden in certain faculties, which have quotas, e.g. medicine, consistent job experience for at least two years in a field outside the discipline, is considered to be another viable route into admission. It was felt by Swedish policy makers that perhaps the social composition of doctors may change and also new attitudes towards the practice of medicine may be gained from having students from a variety of occupational backgrounds enter the profession. The overall admission policy for Swedish universities has been the opposite of that suggested by our Federal Government in that Sweden presently reserves only one third of their places for school leavers. The remaining places are left open for students from different categories. This has resulted in a dramatic shift toward mature age students. For example, the mean age for entrants into Medicine has moved from 19 to approximately 29 (Kim, 1983).

Strategies used for changing the social composition of higher education students in other countries cannot easily be transferred to Australia without considering the different educational and social patterns. Yet there is certainly a need to explore the strategies used in other countries to determine if any of these might be suitably applied in Australia. The Government needs to pursue a more coordinated plan of action rather than to merely inject money into PEP without the necessary strategies to ensure that the resources may produce the desirable results.

References

Anderson, D.S., Boven, R., Fensham, P.J. and Powell, J.P. (1978) *Students in Australian Higher Education: A Study of their Social Composition since the Abolition of Fees*. Sydney: Tertiary Education Research Unit, University of New South Wales.

Anderson, D.S., Boven, R., Fensham, P.J. and Powell, J.D. (1980) *Students in Australian Higher Education*. ERDC Report No. 23, Canberra: AGPS.

Dawkins, J.S. (1988) *Higher Education: A Policy Statement*. Circulated by the Minister for Employment, Education and Training. Canberra: AGPS, July.

Eaton, E.G. (1980) Academic Performance of Mature Age Students: a Review of the General Picture, in T. Hore and L.H.T. West (eds) *Mature Age Students in Australian Higher Education*, Melbourne: Monash University Higher Education Advisory and Research Unit.

Ely, J. (1978) *Reality and Rhetoric: An Alternative History of Australian Education*. Chippendale: NSW, Alternative Pub Cooperative.

Fulton, O. (1988) "Elite Survivals? Entry "Standards" and Procedures for Higher Education Admissions", *Studies in Higher Education*, 13 (1), pp. 15-25.

Hermanns, H. et al., (1983) *The Compleat University*. Cambridge, Mass: Schenkman Publishing Co.

Isaacs, G. (1979) "Mature Age Entry to the Faculty of Arts". Research Paper, Brisbane: Tertiary Education Institute, University of Queensland.

Kim, L. (1983) "Admission to Higher Education in Sweden and its Implications for Integrated Higher Education" in Hermanns, H. et al., (Eds) *The Compleat University*, Cambridge, Mass: Schenkman Publishing Co., pp. 101-129.

Lawler, N. and Hore, T. (1980) *The Problems, Costs and Benefits of Mature Age Students in Australian Higher Education*, Melbourne: Monash University.

Linker, R.D. (1981) "Consequences and Constraints of Open Access to Mature Age Students in Australian Tertiary Education." Paper presented at a Special Conference on "The Phenomenon of the Mature Age Student", at Darling Downs Institute of Advanced Education, Queensland, July.

Commonwealth Department of Education. (1986) *Selection for Higher Education: A discussion of issues and possibilities by an education portfolio discussion group*. Canberra: Pirie Printers Pty Ltd.

Commonwealth Tertiary Education Commission (1984) Report for 1985-87 Triennium, Volume I, Part 1: *Recommendations on Guidelines*, Canberra: Australian Government Publishing Service, April.

Ryan, Senator Susan (1984) *Guidelines to the Commonwealth Tertiary Education Commission for the 1985-87 Triennium*, Department of Education and Youth Affairs, 5 July 1984.

Sydney Morning Herald (1985) "University to ease entry for the poor", 17 December, p. 15.

Teichler, U. (1983) "The Possibilities and Limits of Structural Reform in Higher Education — Results of Integration Experiments in Comparative Perspective" in Hermanns, H. et al. (Eds) *The Compleat University*, Cambridge, Mass: Schenkman Publishing Co., pp. 293-322.

Van Holden, F.M. (1975) "Student Performance in Relation to Age", *Australian University*, 13, pp. 262-270.

Walker, P. (1975) "The University Performance of Mature Students", *Research in Education*, 14, pp. 1-13.

West, L.H.T. (1981) "The Emergent Phenomenon of the Mature Age Student in Australian Universities and Colleges of Advanced Education". Paper presented at a Conference on The Phenomenon of the Mature-age Student, Darling Downs Institute of Advanced Education, July 1981.

West, L.H.T. and Boon, P.K. (1980) "A Profile of Mature Age Entering Students" in T. Hore and L.H.T. West (eds), *Mature Age Students in Australian Higher Education*, Melbourne: Monash University.

Williams, T. et al., (1987) *Participation in Education*, Research Monograph, No. 30, Hawthorn, Victoria: ACER.

★ The authors would like to acknowledge the support of the Australian Research Council, the Australian Council for Employment and Training and Murdoch University.